



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/535,135

05/17/2005

Takahiro Tsutsui

25613-000009/US

3571

30593 7590 05/27/2008
HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

EXAMINER

HIGGINS, GERARD T

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

05/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,135	Applicant(s) TSUTSUI ET AL.	
	Examiner GERARD T. HIGGINS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/17/2005, 08/17/2005, and 09/16/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhotra et al. (6,444,294) in view of Tsuchida et al. (JP 2002-103807), machine translation included.

With regard to claim 1, Malhotra et al. disclose a recording medium, wherein on a first surface there is a first coating composition (col. 14, lines 41-48). The first coating composition can comprise *inter alia* a water-soluble resin binder, an inkspreading/ink wetting agent, a lightfastness-imparting agent, and filler.

The water-soluble binder is disclosed at col. 16, line 5 to col. 18, line 46.

The inkspreading/ink wetting agent is taught at col. 18, line 47 to col. 19, line 67, and they perform the same function as the tocopherol or a derivative thereof seen in

applicants' claim 1. Malhotra et al. teach α -tocopherol acetate and also plain Vitamin E at col. 19, lines 62-63.

The filler is taught at col. 23, line 65 to col. 25, line 44 and comprises inorganic pigments as seen at col. 24, lines 48-59, including *inter alia* hydrated alumina and titanium dioxide.

The lightfastness-imparting agent (antioxidant) is taught at col. 20, line 61 to col. 23, line 64 and it includes ester derivatives of thiodipropionic acid at col. 22, lines 15-26; however, Malhotra et al. fail to teach using a lightfastness-imparting agent of thiodipropionic acid or a salt thereof.

Tsuchida et al. teach an inkjet recording medium that has a lightfastness-imparting agent, specifically thiodipropionic acid (Abstract, [0008]-[0009]).

Since Malhotra et al. and Tsuchida et al. are both drawn to inkjet recording materials with lightfastness-imparting agents; it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the thiodipropionic ester lightfastness-imparting agents of Malhotra et al. with the thiodipropionic acid lightfastness-imparting agents of Tsuchida et al. The results of which would have been predictable to one having ordinary skill in the art. Specifically, the reduction in the discoloration of inks over time.

With regard to claim 2, the disclosure of Malhotra et al. at col. 16, lines 5-17 (binder), col. 18, lines 47-55 (ink spreading/wetting agent), col. 20, line 61 to col. 21, line 2 (lightfastness-imparting agent), and col. 23, line 65 to col. 24, line 5 (pigment) clearly

show that the ink spreading/wetting agent and lightfastness-imparting agent are present in the ink-receiving layer from 1 to 20 % by weight based on said inorganic pigment.

With regard to claim 6, the Title of Malhotra et al. is "Recording Substrate for Ink Jet Printing."

4. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhotra et al. (6,444,294) in view of Tsuchida et al. (JP 2002-103807) as applied to claim 1 above, and further in view of Kitamura et al. (US 2001/0016249).

Malhotra et al. in view of Tsuchida et al. render obvious all of applicants' limitations in section 3 above; however, they fail to disclose that the hydrated alumina has a boehmite or pseudo-boehmite structure or wherein the ink-receiving layer comprises a boron compound.

With regard to claim 3, Kitamura et al. disclose boehmite or pseudo-boehmite aluminas for inkjet recording media [0089], [0090], and [0130].

Since Malhotra et al. in view of Tsuchida et al. and Kitamura et al. are all drawn to inkjet recording media; it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the boehmite or pseudo-boehmite aluminas of Kitamura et al. as the hydrated alumina of Malhotra et al. The results of such a substitution would have been predictable to one having ordinary skill; further, a motivation for making the substitution can be found in Kitamura et al. at [0089], which states that the aluminas would lead to a recording stratum having high gloss and smoothness.

With regard to claim 4, the claimed properties of the aluminum hydrates would be intrinsic in the aluminas of Kitamura et al. because they are aluminas having the same structure as claimed in claim 3.

With regard to claim 5, Kitamura et al. teach boric acid and borate salts as light-resistance agents [0167]-[0168].

Since Malhotra et al. in view of Tsuchida et al. and Kitamura et al. are all drawn to inkjet recording media; it would have been obvious to one having ordinary skill in the art at the time the invention was made to use boric acids or borate salts in the inkjet recording media of Malhotra et al. in view of Tsuchida et al. The results of such a combination would have been predictable to one having ordinary skill in the art; further, each of the elements would have performed the same in combination as they had separately. The motivation for adding the boric acid or borate salts would be to provide further light-resistance (resistance to fading) in the inkjet recording medium (please see Kitamura et al. [0167]).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited but not used art are other patent that use a tocopherol and ester derivatives of thiopropionate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is

Art Unit: 1794

(571)270-3467. The examiner can normally be reached on M-F 7:30am-5pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerard T Higgins, Ph.D.
Examiner
Art Unit 1794

/Gerard T Higgins, Ph.D./
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794